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| (51) International Patent Classification <sup>6</sup> :<br><b>C08F 290/04, 255/02</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>A1</b>                                                                                                                                                                                                                                | (11) International Publication Number: <b>WO 99/29749</b><br>(43) International Publication Date: 17 June 1999 (17.06.99) |
| <p>(21) International Application Number: <b>PCT/US98/24117</b></p> <p>(22) International Filing Date: <b>12 November 1998 (12.11.98)</b></p> <p>(30) Priority Data:<br/><b>60/067,781 10 December 1997 (10.12.97) US</b></p> <p>(71) Applicant: <b>EXXON CHEMICAL PATENTS INC. [US/US];<br/>5200 Bayway Drive, Baytown, TX 77520-5200 (US).</b></p> <p>(72) Inventors: <b>WENG, Weiquing; 13707 Shadow Falls Court,<br/>Houston, TX 77059 (US). DEKMEZIAN, Armenag, H.;<br/>2806 Evergreen Cliff Trail, Kingwood, TX 77345 (US).<br/>MARKEL, Eric, J.; 4534 Natural Bridge Drive, Kingwood,<br/>TX 77345 (US). PETERS, David, L.; 14826 Hollydale,<br/>Houston, TX 77062 (US).</b></p> <p>(74) Agents: <b>PEEBLES, Brent, M. et al.; Exxon Chemical Com-<br/>pany, P.O. Box 2149, Baytown, TX 77522-2149 (US).</b></p>                                                                                                                                                                                                        | <p>(81) Designated States: <b>BR, CA, CN, JP, KR, MX, SG, European<br/>patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,<br/>IE, IT, LU, MC, NL, PT, SE).</b></p> <p><b>Published</b><br/><i>With international search report.</i></p> |                                                                                                                           |
| <p>(54) Title: <b>ELASTOMERIC PROPYLENE POLYMERS</b></p> <p>(57) Abstract</p> <p>A thermoplastic elastomer is provided comprising a branched olefin polymer having crystalline sidechains and an amorphous backbone wherein at least 90 mole percent of the sidechains are isotactic or syndiotactic polypropylene and at least 80 mole percent of the backbone is atactic polypropylene. Additionally, a process is provided for producing a thermoplastic elastomer composition comprising: a) contacting, in solution, at a temperature from 90 °C to 120 °C propylene monomers with a catalyst composition comprising a chiral, stereorigid transition metal catalyst compound capable of producing isotactic or syndiotactic polypropylene; b) copolymerizing the product of a) with propylene and, optionally, one or more copolymerizable monomers, in a polymerization reactor using an achiral transition metal catalyst capable of producing atactic polypropylene; and c) recovering a branched olefin polymer.</p> |                                                                                                                                                                                                                                          |                                                                                                                           |